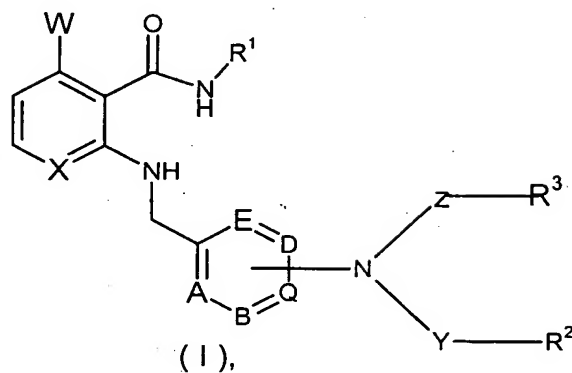


## Claims

## 1. Compounds of general formula I



in which

X stands for CH or N,

W stands for hydrogen or fluorine,

A, B, D,

E and Q, in each case independently of one another, stand for a nitrogen or carbon atom, whereby only a maximum of two nitrogen atoms can be present in the ring,

R<sup>1</sup> stands for aryl or heteroaryl, which optionally can be substituted in one or more places in the same way or differently with halogen, hydroxy, C<sub>1</sub>-C<sub>12</sub>-alkyl, C<sub>3</sub>-C<sub>6</sub>-cycloalkyl, C<sub>3</sub>-C<sub>6</sub>-alkenyl, C<sub>2</sub>-C<sub>6</sub>-alkinyl, aralkyloxy, C<sub>1</sub>-C<sub>12</sub>-alkoxy, halo-C<sub>1</sub>-C<sub>6</sub>-alkyl, cyano-C<sub>1</sub>-C<sub>6</sub>-alkyl or with the group =O, -SO<sub>2</sub>R<sup>6</sup>

or  $-OR^5$ , whereby the  $C_1-C_6$ -alkyl optionally also can be substituted with the group  $-OR^5$  or  $-NR^9R^{10}$ ,

Y and Z, in each case independently of one another, stand for a bond or for the group  $=CO$ ,  $=CS$  or  $=SO_2$ ,

$R^2$  and  $R^3$ , independently of one another, stand for hydrogen or for the group  $-CONR^9R^{10}$ ,  $-SO_2R^6$ ,  $-COR^{11}$ ,  $-COC_1-C_6$ -alkyl,  $-CO-C_1-C_6$ -alkyl- $R^{11}$ ,  $-NR^9R^{10}$  or for  $C_1-C_6$ -alkyl,  $C_3-C_{10}$ -cycloalkyl,  $C_3-C_6$ -cycloalkenyl, aryl or heteroaryl that is optionally substituted in one or more places in the same way or differently with halogen, cyano,  $C_1-C_{12}$ -alkyl,  $C_1-C_{12}$ -alkoxy, hydroxy- $C_1-C_6$ -alkyl, halo- $C_1-C_6$ -alkyl or with the group  $-NR^7R^8$ ,  $-OR^5$ ,  $-C_1-C_6$ -alkyl- $OR^5$ ,  $-SR^4$ ,  $-SOR^4$  or  $-SO_2R^6$ , or

$R^2$ ,  $R^3$ , Y

and Z together with the nitrogen atom form a 3- to 8-membered saturated or unsaturated ring, which optionally can contain additional heteroatoms in the ring and optionally can be substituted in one or more places in the same way or differently with halogen, cyano,  $C_1-C_{12}$ -alkyl,  $C_1-C_{12}$ -alkoxy, halo- $C_1-C_6$ -alkyl, hydroxy- $C_1-C_6$ -alkyl, or with the group  $=O$ ,  $-OR^5$ ,  $-SR^4$ ,  $-SOR^4$  or  $-SO_2R^6$ ,

$R^4$  stands for  $C_1-C_{12}$ -alkyl, aryl or heteroaryl,

$R^5$  stands for hydrogen,  $C_1-C_{12}$ -alkyl,  $C_3-C_{10}$ -cycloalkyl,  $C_1-C_{12}$ -alkoxy, halo- $C_1-C_{12}$ -alkyl, or halo- $C_3-C_6$ -cycloalkyl,

$R^6$  stands for hydrogen,  $C_1-C_{12}$ -alkyl, halo- $C_1-C_6$ -alkyl, aryl or heteroaryl, or for the group  $-NR^9R^{10}$ , whereby the aryl or heteroaryl itself optionally can

be substituted in one or more places in the same way or differently with  
 $C_1$ - $C_{12}$ -alkyl,  $C_1$ - $C_6$ -alkoxy, halogen or halo- $C_1$ - $C_6$ -alkoxy,  
 $R^7$  and  $R^8$ , independently of one another, stand for hydrogen or  $C_1$ - $C_{12}$ -alkyl,  
 $R^9$  and  $R^{10}$ , independently of one another, stand for hydrogen,  $C_1$ - $C_6$ -alkyl,  
 $C_2$ - $C_6$ -alkenyl, aryl,  $C_3$ - $C_8$ -cycloalkyl or for the group  $-\text{CONR}^7\text{R}^8$ , or for  
 $C_1$ - $C_{12}$ -alkyl that is optionally substituted in one or more places in the  
same way or differently with aryl, morpholino, hydroxy, halogen,  $C_1$ - $C_{12}$ -  
alkoxy, or for the group  $-\text{NR}^7\text{R}^8$ , whereby the aryl itself optionally can be  
substituted in one or more places in the same way or differently with  $C_1$ -  
 $C_6$ -alkoxy or halo- $C_1$ - $C_6$ -alkyl, or  
 $R^9$  and  $R^{10}$  together form a 5- to 8-membered ring that can contain additional  
heteroatoms, and  
 $R^{11}$  stands for  $C_1$ - $C_6$ -alkyl,  $C_1$ - $C_6$ -alkoxy, hydroxy- $C_1$ - $C_6$ -alkyl, hydroxy- $C_1$ -  
 $C_6$ -alkoxy,  $C_3$ - $C_6$ -cycloalkyl, phenyl, pyridyl, biphenyl or naphthyl,  
whereby the phenyl itself can be substituted in one or more places in the  
same way or differently with  $C_1$ - $C_6$ -alkyl, or halo- $C_1$ - $C_6$ -alkyl, as well as  
isomers, diastereomers, tautomers and salts thereof.

2. Compounds of general formula I, according to claim 1, in which

X stands for CH,

W stands for hydrogen,

A, B, D,

E and Q as a ring together stand for pyridyl,

$R^1$  stands for aryl or heteroaryl, which optionally can be substituted in one or

more places in the same way or differently with halogen, hydroxy, C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>3</sub>-C<sub>6</sub>-cycloalkyl, C<sub>4</sub>-C<sub>6</sub>-alkenyl, C<sub>2</sub>-C<sub>6</sub>-alkinyl, aralkyloxy, C<sub>1</sub>-C<sub>6</sub>-alkoxy, halo-C<sub>1</sub>-C<sub>6</sub>-alkyl, cyano-C<sub>1</sub>-C<sub>6</sub>-alkyl, or with the group =O, -SO<sub>2</sub>R<sup>6</sup> or -OR<sup>5</sup>, whereby C<sub>1</sub>-C<sub>6</sub>-alkyl optionally also can be substituted with the group -OR<sup>5</sup> or -NR<sup>9</sup>R<sup>10</sup>,

Y and Z, in each case independently of one another, stand for a bond,

R<sup>2</sup> and R<sup>3</sup>, independently of one another, stand for hydrogen or for the group -CONR<sup>9</sup>R<sup>10</sup>, -SO<sub>2</sub>R<sup>6</sup>, -COR<sup>11</sup>, -COC<sub>1</sub>-C<sub>6</sub>-alkyl, -CO-C<sub>1</sub>-C<sub>6</sub>-alkyl-R<sup>11</sup>, -NR<sup>9</sup>R<sup>10</sup> or for C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>3</sub>-C<sub>6</sub>-cycloalkyl, C<sub>3</sub>-C<sub>6</sub>-cycloalkenyl, aryl or heteroaryl that is optionally substituted in one or more places in the same way or differently with halogen, cyano, C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>-alkoxy, hydroxy-C<sub>1</sub>-C<sub>6</sub>-alkyl, halo-C<sub>1</sub>-C<sub>6</sub>-alkyl or with the group -NR<sup>7</sup>R<sup>8</sup>, -OR<sup>5</sup>, -C<sub>1</sub>-C<sub>6</sub>-alkyl-OR<sup>5</sup>, -SR<sup>4</sup>, -SOR<sup>4</sup> or -SO<sub>2</sub>R<sup>6</sup>, or

R<sup>2</sup>, R<sup>3</sup>, Y

and Z together with the nitrogen atom form a 3- to 8-membered saturated or unsaturated ring, which optionally can contain additional heteroatoms in the ring and optionally can be substituted in one or more places in the same way or differently with halogen, cyano, C<sub>1</sub>-C<sub>12</sub>-alkyl, C<sub>1</sub>-C<sub>12</sub>-alkoxy, halo-C<sub>1</sub>-C<sub>6</sub>-alkyl, hydroxy-C<sub>1</sub>-C<sub>6</sub>-alkyl or with the group =O, -OR<sup>5</sup>, -SR<sup>4</sup>, -SOR<sup>4</sup> or -SO<sub>2</sub>R<sup>6</sup>,

R<sup>4</sup> stands for C<sub>1</sub>-C<sub>6</sub>-alkyl, aryl or heteroaryl,

R<sup>5</sup> stands for hydrogen, C<sub>1</sub>-C<sub>6</sub>-alkyl, halo-C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>12</sub>-alkoxy, C<sub>3</sub>-C<sub>10</sub>-cycloalkyl or halo-C<sub>3</sub>-C<sub>6</sub>-cycloalkyl,

$R^6$  stands for hydrogen,  $C_1$ - $C_6$ -alkyl, halo- $C_1$ - $C_6$ -alkyl, aryl or heteroaryl, or for the group  $-NR^9R^{10}$ , whereby the aryl or heteroaryl itself optionally can be substituted in one or more places in the same way or differently with  $C_1$ - $C_6$ -alkyl,  $C_1$ - $C_6$ -alkoxy, halogen or halo- $C_1$ - $C_6$ -alkoxy,

$R^7$  and  $R^8$ , independently of one another, stand for hydrogen or  $C_1$ - $C_6$ -alkyl,

$R^9$  and  $R^{10}$ , independently of one another, stand for hydrogen,  $C_1$ - $C_6$ -alkyl,  $C_2$ - $C_6$ -alkenyl, aryl,  $C_3$ - $C_8$ -cycloalkyl, or for the group  $-CONR^7R^8$ , or for  $C_1$ - $C_6$ -alkyl that is optionally substituted in one or more places in the same way or differently with aryl, morpholino, hydroxy, halogen or  $C_1$ - $C_{12}$ -alkoxy, or for the group  $-NR^7R^8$ , whereby the aryl itself optionally can be substituted in one or more places in the same way or differently with  $C_1$ - $C_6$ -alkoxy or halo- $C_1$ - $C_6$ -alkyl, and

$R^{11}$  stands for  $C_1$ - $C_6$ -alkyl,  $C_1$ - $C_6$ -alkoxy, hydroxy- $C_1$ - $C_6$ -alkyl, hydroxy- $C_1$ - $C_6$ -alkoxy,  $C_3$ - $C_6$ -cycloalkyl, phenyl, pyridyl, biphenyl or naphthyl, whereby the phenyl itself can be substituted in one or more places in the same way or differently with  $C_1$ - $C_6$ -alkyl, or halo- $C_1$ - $C_6$ -alkyl, as well as isomers, diastereomers, tautomers and salts thereof.

3. Compounds of general formula I, according to claims 1 and 2, in which

X stands for CH,

W stands for hydrogen,

A, B, D,

E, and Q as a ring together stand for pyridyl,

$R^1$  stands for phenyl, quinolinyl, isoquinolinyl or indazolyl, which optionally

can be substituted in one or more places in the same way or differently with halogen, hydroxy, C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>2</sub>-C<sub>6</sub>-alkinyl, C<sub>1</sub>-C<sub>6</sub>-alkoxy, halo-C<sub>1</sub>-C<sub>6</sub>-alkyl, or cyano-C<sub>1</sub>-C<sub>6</sub>-alkyl, whereby C<sub>1</sub>-C<sub>6</sub>-alkyl optionally also can be substituted with the group -OR<sup>5</sup> or -NR<sup>9</sup>R<sup>10</sup>,

Y and Z, in each case independently of one another, stand for a bond, or for the group =CO,

R<sup>2</sup> and R<sup>3</sup>, independently of one another, stand for hydrogen or for the group -CONR<sup>9</sup>R<sup>10</sup>, -SO<sub>2</sub>R<sup>6</sup>, -COR<sup>11</sup>, -COC<sub>1</sub>-C<sub>6</sub>-alkyl, -CO-C<sub>1</sub>-C<sub>6</sub>-alkyl-R<sup>11</sup>, -NR<sup>9</sup>R<sup>10</sup> or for C<sub>1</sub>-C<sub>6</sub>-alkyl or phenyl that is optionally substituted in one or more places in the same way or differently with the group -NR<sup>7</sup>R<sup>8</sup> or -OR<sup>5</sup>, or

R<sup>2</sup>, R<sup>3</sup>, Y

and Z together with the nitrogen atom form a 3- to 8-membered saturated or unsaturated ring that optionally can contain additional heteroatoms in the ring and optionally can be substituted in one or more places in the same way or differently with halogen, cyano, C<sub>1</sub>-C<sub>12</sub>-alkyl, C<sub>1</sub>-C<sub>12</sub>-alkoxy, halo-C<sub>1</sub>-C<sub>6</sub>-alkyl, hydroxy-C<sub>1</sub>-C<sub>6</sub>-alkyl or with the group =O, -OR<sup>5</sup>, -SR<sup>4</sup>, -SOR<sup>4</sup> or -SO<sub>2</sub>R<sup>6</sup>,

R<sup>5</sup> stands for hydrogen or C<sub>1</sub>-C<sub>6</sub>-alkyl,

R<sup>6</sup> stands for hydrogen, C<sub>1</sub>-C<sub>6</sub>-alkyl, halo-C<sub>1</sub>-C<sub>6</sub>-alkyl, phenyl, benzyl, thiophenyl, or pyridyl, whereby the phenyl, benzyl, thiophenyl and pyridyl itself optionally can be substituted in one or more places in the same way

or differently with C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>-alkoxy, halogen or halo-C<sub>1</sub>-C<sub>6</sub>-alkoxy,

R<sup>7</sup> and R<sup>8</sup>, independently of one another, stand for hydrogen or C<sub>1</sub>-C<sub>6</sub>-alkyl,

R<sup>9</sup> and R<sup>10</sup>, independently of one another, stand for hydrogen, C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>2</sub>-C<sub>6</sub>-alkenyl, phenyl, biphenyl, C<sub>3</sub>-C<sub>8</sub>-cycloalkyl, naphthyl or for the group -CONR<sup>7</sup>R<sup>8</sup> or for C<sub>1</sub>-C<sub>6</sub>-alkyl that is optionally substituted in one or more places in the same way or differently with phenyl, morpholino, hydroxy, halogen, C<sub>1</sub>-C<sub>12</sub>-alkoxy, or with the group -NR<sup>7</sup>R<sup>8</sup>, whereby the phenyl itself optionally can be substituted in one or more places in the same way or differently with C<sub>1</sub>-C<sub>6</sub>-alkoxy or halo-C<sub>1</sub>-C<sub>6</sub>-alkyl, and

R<sup>11</sup> stands for C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>-alkoxy, hydroxy-C<sub>1</sub>-C<sub>6</sub>-alkyl, hydroxy-C<sub>1</sub>-C<sub>6</sub>-alkoxy, C<sub>3</sub>-C<sub>6</sub>-cycloalkyl, phenyl, pyridyl, biphenyl or naphthyl, whereby the phenyl itself can be substituted in one or more places in the same way or differently with C<sub>1</sub>-C<sub>6</sub>-alkyl, or halo-C<sub>1</sub>-C<sub>6</sub>-alkyl, as well as isomers, diastereomers, tautomers and salts thereof.

4. Pharmaceutical agents comprise at least one compound of general formula I.

5. Pharmaceutical agents according to claim 4 for use in the case of tumor or metastasis growth, psoriasis, Kaposi's sarcoma, restenosis, such as, e.g., stent-induced restenosis, endometriosis, Crohn's disease, Hodgkin's disease, leukemia; arthritis, such as rheumatoid arthritis, hemangioma, angiofibroma; eye diseases, such as diabetic retinopathy, neovascular glaucoma; renal diseases, such as glomerulonephritis, diabetic nephropathy, malignant nephrosclerosis, thrombotic microangiopathic syndrome, transplant rejections and glomerulopathy; fibrotic diseases, such as cirrhosis of the liver, mesangial

cell proliferative diseases, arteriosclerosis, injuries to nerve tissue, inhibition of the reocclusion of vessels after balloon catheter treatment, vascular prosthetics or use of mechanical devices to keep vessels open, such as, e.g., stents, and as immunosuppressive agents, and for supporting scar-free healing, in senile keratosis and in contact dermatitis.

6. Pharmaceutical agents according to claim 5 for use as VEGFR kinase 3-inhibitors of lymphangiogenesis.

7. Compounds according to claims 1 to 3 and pharmaceutical agents, according to claims 4 to 6, with suitable formulations and vehicles.

8. Use of the compounds of formula I, according to claims 1 to 3, as inhibitors of the tyrosine kinases KDR and FLT.

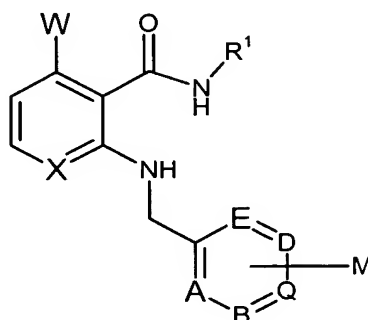
9. Use of the compounds of general formula I, according to claims 1 to 3, in the form of a pharmaceutical preparation for enteral, parenteral and oral administration.

10. Use of the compounds according to claims 1 to 3 in the case of tumor or metastasis growth, psoriasis, Kaposi's sarcoma, restenosis, such as, e.g., stent-induced restenosis, endometriosis, Crohn's disease, Hodgkin's disease, leukemia; arthritis, such as rheumatoid arthritis, hemangioma, angiofibroma; eye diseases, such as diabetic retinopathy, neovascular glaucoma; renal diseases, such as glomerulonephritis, diabetic nephropathy, malignant nephrosclerosis, thrombic microangiopathic syndrome, transplant rejections and glomerulopathy; fibrotic diseases, such as cirrhosis of the liver, mesangial cell proliferative diseases, arteriosclerosis, injuries to nerve tissue, and for inhibiting the reocclusion of vessels after balloon catheter treatment, in vascular prosthetics or after mechanical devices are used to keep vessels open, such as, e.g., stents, and as

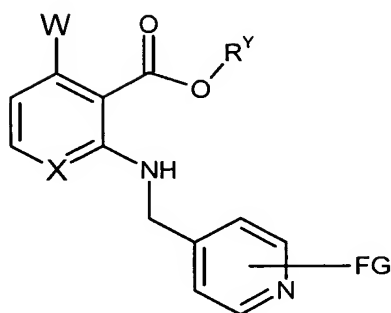


immunosuppressive agents, and for supporting scar-free healing, and in senile keratosis and in contact dermatitis.

11. Compounds of general formulas II, IIa, and III,

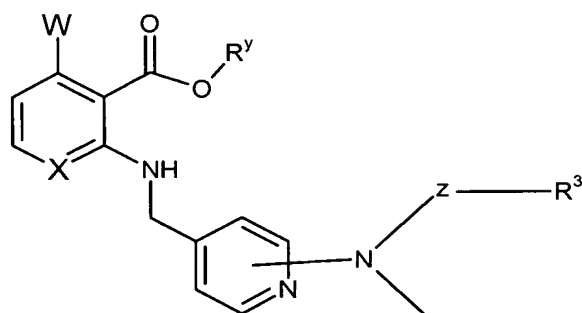


( II ),



( IIa )

und



( III ),

[and]

in which A, B, D, E, Q, W, X, Y, Z, R<sup>2</sup>, and R<sup>3</sup> have the meanings that are indicated in general formula I, and M stands for halogen, FG stands for a leaving group, such as, e.g., halogen, O-triflate, O-mesylate, O-tosylate or sulfone, and R<sup>Y</sup> stands for C<sub>1</sub>-C<sub>6</sub>-alkyl or hydrogen, as intermediate products for the production of the compounds of general formula I according to the invention.